allied academies

Salma Ahmadloo et al., J Res Rep Genet 2019, Volume 3
DOI: 10.35841/2591-7986-C1-002

International Conference on

Molecular Biology and Genetic Engineering

November 07-08, 2019 | Melbourne, Australia

Signature pattern of gene expression and signaling pathway in premature diabetic patients uncover their correlation to early age coronary heart disease

Salma Ahmadloo[1], Ling King Hwa[2], Ahmad Fazli[3] and **Patimah Ismail[1]**
[1]Shahid Beheshti University, Iran
[2]Harvard Medical School, USA
[3]Serdang Hospital, Malaysia

Coronary Heart Disease (CHD) is still the number-one killer in the world. The number of people with premature CHD has more than tripled in the past 40 years and the figures are still growing. Notably, many of the patients with CHD have diabetes mellitus (DM). This study was carried out for the purpose of profiling expression of DM associated genes and identify related biological process and modulated signaling pathways of Malaysian male subjects with CHD from three ethnic groups, namely Malay, Chinese and Indian. In order to achieve the goal, four groups of subjects were divided into: 1) healthy subjects; 2) subjects with only DM; 3) subjects with only CHD, and 4) subjects with CHD + DM. The RNA was extracted from blood specimens by mean of commercial extraction kits. The RT2 Profiler™ PCR Array was utilized to determine gene profiling on group 1 and group 2, group 1 and group 3, group 1 and group 4. To validate the results of RT2 profiler™ PCR Array, significantly dysregulated genes were selected and validation was conducted through Q-RT-PCR in a larger and independent population. For this purpose, new subjects were divided into 1) healthy subjects. 2) Subjects with DM+CHD. 12 significantly dysregulated genes related to diabetes and Toll-Like receptor signaling pathway were identified which may be a culprit to susceptible diabetic patients to CHD development. In Silico experiments imply a role for inflammatory responses in the circulating leukocytes as a biomarker reflecting initiation of CHD in patients with DM. In conclusion, some differentially dysregulated genes and modulated pathways were identified which warrant further investigation in the setting of CHD and its risk factors. It is hoped that a greater understanding of genetic predisposition to CHD will unravel clues to its etiology and allow development of novel diagnostic and therapeutic tools to permit targeted interventions to reduce this global health burden.

Speaker Biography

Salma Ahmadloo has completed her Ph.D. in the field of Medical Genetics from Universiti Putra Malaysia. She is a Postdoc fellow in Shahid Beheshti University of Iran. She is an experienced Senior Researcher with a demonstrated history of working in the higher education industry.

e: salma.ahmadlou@gmail.com

Notes: